

# Appendix I

## Industry Directory for On-Farm Biogas Recovery Systems

This appendix is a reprint of the AgSTAR Program's second edition of the *Industry Directory for On-Farm Biogas Recovery Systems* (released in July 2003). This Directory is designed to help farm owners identify appropriate consultants, project developers, energy service providers, equipment manufacturers and distributors, and commodity organizations. The Directory provides descriptions, relevant experience, and contact information for each business listed. While the best efforts were made to contact domestic and international businesses with relevant experience, the Directory is not exhaustive. AgSTAR will continue to update the Directory as new businesses emerge or existing businesses expand into the livestock waste market. These updates will be posted on the AgSTAR Web site ([www.epa.gov/agstar](http://www.epa.gov/agstar)), where this Directory and other AgSTAR Program products can be downloaded.

The organizations are listed in the following order:

- Commodity Organizations
- Consultants
- Developers
- Equipment Suppliers/Distributors: Covers
- Equipment Suppliers/Distributors: Engines
- Equipment Suppliers/Distributors: System Components
- General Energy Services
- Publishers
- Universities

If you are interested in being included in this Directory, please call the AgSTAR Hotline at 1-800-95 AgSTAR (1-800-952-4782) from 9:00 a.m. to 5:00 p.m. Eastern Standard Time.

EPA does not guarantee the accuracy of the information that has been supplied by the listed organizations. Listing in this Directory does not imply EPA endorsement of any listed organization. All users of this Directory must employ their own due diligence in making decisions based on information found within.

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### Commodity Organizations

#### **Dairy Quality Assurance Center**

Keith Carlson	<b>Tel:</b> 515/838-2793		
801 Shakespeare Avenue	<b>Ext:</b>	<b>Email:</b> kcarlson@dqacenter.org	<b># Yrs in Business:</b> 9
Stratford            IA    50249	<b>Fax:</b> 515/838-2788	<b>Web:</b> <a href="http://www.dqacenter.org">www.dqacenter.org</a>	<b># Employees:</b> 3
US			

The Dairy Quality Assurance Center provides national publicity to dairy farmers.

### Consultants

#### **Bioenergy & Environmental, LLC**

Jun Yoshitani	<b>Tel:</b> 630/588-8776		
211 East Illinois Street	<b>Ext:</b>	<b>Email:</b> westoak@ix.netcom.com	<b># Yrs in Business:</b> 7
Wheaton            IL    60187	<b>Fax:</b> 630/588-8779	<b>Web:</b> <a href="http://www.BandE.com">www.BandE.com</a>	<b># Employees:</b> 3
US			

Bioenergy & Environmental, LLC (B&E) offers comprehensive planning, design, and construction services for the implementation of integrated bioenergy and environmental facilities. Through the company's experience working with more than 20 livestock facilities, B&E has developed a systematic, computer-aided approach for helping producers analyze their farm energy potentials and understand their obligations to CAFO rules. B&E incorporates application of phytotechnology for low-cost, on-farm nutrient control systems, and provides assistance in preparing Farm Bill Title IX grant/loan applications.

#### **Bridgestone Associates, Ltd.**

Martin C.T. Anderson	<b>Tel:</b> 610/388-6191		
P.O. Box 1299	<b>Ext:</b>	<b>Email:</b> mcta@brdgstn.com	<b># Yrs in Business:</b> 12
Chadds Ford        PA    19317	<b>Fax:</b> 610/388-0394	<b>Web:</b> <a href="http://www.brdgstn.com">www.brdgstn.com</a>	<b># Employees:</b> 6
US			

Consultants in the evaluation, design, financing, construction, and operations of animal manure anaerobic digestion and other disposal facilities

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and other renewable energy projects.

### Dennis Gerber, Consultant

Dennis Gerber	<b>Tel:</b> 408/395-9020		
15870 Rose Avenue	<b>Ext:</b>	<b>Email:</b> dhgerber@attbi.com	<b># Yrs in Business:</b> NA
Los Gatos      CA    95030	<b>Fax:</b> 408/395-9020	<b>Web:</b>	<b># Employees:</b> NA
US			

Mr. Gerber designs and installs anaerobic digester covers. His Gas Collecting Floating Cover design, which holds a U.S. Patent, is the de-facto standard for flexible membrane anaerobic digesters.

### E3 Ventures

Mike Walker	<b>Tel:</b> 919/469-3737		
1140 Kildaire Farm Road, Suite 304	<b>Ext:</b>	<b>Email:</b> mwalker@e3ventures.com	<b># Yrs in Business:</b> 7
Cary      NC    27511	<b>Fax:</b> 919/469-3656	<b>Web:</b> <a href="http://www.e3ventures.com">www.e3ventures.com</a>	<b># Employees:</b> 4
US			

E3 Ventures provides regulatory consulting related to the Clean Air Act.

### EnviroEnergetics

Sam Ghosh, PhD	<b>Tel:</b> 801/596-2166		
1281 E. Federal Heights Drive	<b>Ext:</b>	<b>Email:</b> ghoshsambhunath@hotmail.com	<b># Yrs in Business:</b> 14
Salt Lake City    UT    84103	<b>Fax:</b> 801/596-2166	<b>Web:</b>	<b># Employees:</b> 5
US			

Established in 1988, EnviroEnergetics provides assistance with anaerobic digestion process development, demonstration, and full-scale application and operation. The company has designed, evaluated, and/or modified prototype or full-scale municipal, industrial, and agricultural digestion systems throughout the United States in California, Illinois, Utah, Florida, and Colorado, and internationally in China and India.

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### Environmental Resource Recovery Group, LLC (EnRRG)

Burt Tribble		<b>Tel:</b> 913/886-8051		
15789 202 Street		<b>Ext:</b>	<b>Email:</b> btribble@enrrg.com	<b># Yrs in Business:</b> NA
Nortonville	KS 66060	<b>Fax:</b> 775/205-1966	<b>Web:</b> <a href="http://www.enrrg.com">www.enrrg.com</a>	<b># Employees:</b> 10
US				

Environmental Resource Recovery Group (EnRRG) is a recently formed company whose partners have experience in anaerobic digestion and waste-to-energy in agriculture, agribusiness, and the food industry. EnRRG's business is identifying practical energy recovery, anaerobic digestion, and waste management projects, evaluating their economic potentials, and bringing together qualified projects with development partners. Qualified projects are those meeting technical requirements and economic investment guidelines.

### Fraunhofer Center for Energy and Environment

Junchul Kim, Ph.D.		<b>Tel:</b> 412/624-8609		
5940 Baum Square, Suite 7		<b>Ext:</b>	<b>Email:</b> jckim@engr.pitt.edu	<b># Yrs in Business:</b> 2
Pittsburgh	PA 15206	<b>Fax:</b> 412/624-8860	<b>Web:</b>	<b># Employees:</b> 4
US				

Fraunhofer Center for Energy and Environment was established in 2001 as a non-profit organization. The goal of the Center is to introduce technologies and processes developed and demonstrated by Fraunhofer in Germany into the United States, providing solutions to solve regional and national problems in energy and the environment. The Center cooperates with the School of Engineering at the University of Pittsburgh. All Fraunhofer projects are affiliated with local, state, and federal agencies, and private sectors. On-farm biogas generation using manure or other biomass is one of the technologies developed and successfully demonstrated by Fraunhofer. The technology's use has been extended to various applications, including sewage sludge treatment, industrial wastewater with high organic contents, co-digestion, and biowaste digestion.

### Gas Technology Institute

J. Robert Paterek, Ph.D.		<b>Tel:</b> 847/768-0720		
1700 Mount Prospect Road		<b>Ext:</b>	<b>Email:</b> robert.paterek@gastechnology.org	<b># Yrs in Business:</b> 53
Des Plaines	IL 60018	<b>Fax:</b> 847/768-0546	<b>Web:</b> <a href="http://www.gastechnology.org">www.gastechnology.org</a>	<b># Employees:</b> 320
US				

Gas Technology Institute (GTI) and the Environmental Science & Technology Center have been carrying out research and development projects and technology demonstrations in the areas of anaerobic digestion and biogas generation since the 1970s. GTI holds a number of patents on the

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two-phase reactor system and other reactor designs and systems. The two-phase digestion technology has been in full-scale commercial use for activated sludge treatment for more than five years. The two-stage system has proven successful for swine and dairy manure in large-scale laboratory evaluations and GTI is preparing for farm demonstrations and full-scale deployments.

### General Bioenergy, Inc.

Phillip Badger		<b>Tel:</b> 256/740-5634		
P.O. Box 26		<b>Ext:</b>	<b>Email:</b> <a href="mailto:pbadger@bioenergyupdate.com">pbadger@bioenergyupdate.com</a>	<b># Yrs in Business:</b> 3
Florence	AL	<b>Fax:</b> 256/740-5635	<b>Web:</b> <a href="http://www.bioenergyupdate.com">www.bioenergyupdate.com</a>	<b># Employees:</b> 4
US	35630			

Mr. Badger is the Technical Director for the Southeastern Regional Biomass Energy Program, which has funded a variety of projects related to farm-scale systems (mainly lagoon digester projects) and wastewater treatment plants. He publishes and sells the "Biogas Utilization Handbook." General Bioenergy has performed feasibility studies for farm biogas systems.

### MacMillan & Associates

Roy MacMillan		<b>Tel:</b> 503/628-0277		
17815 NE Courtney Road		<b>Ext:</b>	<b>Email:</b> <a href="mailto:rm@macmillan-group.com">rm@macmillan-group.com</a>	<b># Yrs in Business:</b> 30
Newberg	OR	<b>Fax:</b>	<b>Web:</b>	<b># Employees:</b> 6
US	97132			

MacMillan & Associates is an integrated engineering and consulting company that specializes in providing energy-related services to the agricultural community.

### MCON BIO, Inc.

Hans Meyer		<b>Tel:</b> 909/600-1385		
39642 Via Temprano		<b>Ext:</b>	<b>Email:</b> <a href="mailto:mconbio@mconbio.com">mconbio@mconbio.com</a>	<b># Yrs in Business:</b> 10
Murrieta	CA	<b>Fax:</b> 909/600-1285	<b>Web:</b> <a href="http://www.mconbio.com">www.mconbio.com</a>	<b># Employees:</b> 170
US	92563			

MCON BIO is a consulting, engineering, and management company that works with all aspects of biogas operations, from logistics and management to finished products applications. MCON BIO also represents Farmatic Biotech Energy AG, which builds complete biogas and waste water treatment plants.

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### Meridian Capital Investments, Inc.

Gino Heilizer  
10220 River Road  
Potomac MD 20854  
US

**Tel:** 301/983-5000  
**Ext:**  
**Fax:** 301/983-9012

**Email:** [gheilizer@meridianinvestments.com](mailto:gheilizer@meridianinvestments.com)  
**Web:** [www.meridianinvestments.com](http://www.meridianinvestments.com)

**# Yrs in Business:** 15  
**# Employees:** 40

Meridian Investments is the largest provider of tax credit equity in America. Since 1992, the company has underwritten over \$8 billion worth of federal tax credits. Meridian Investments has experience in all major federal tax credit programs, including sections 42, 29, and 45. The company provides information on selling credits to clients with plants that currently generate or will be generating a qualifying fuel under section 29 or 45 of the IRC.

### National Methane

William J. Lingo, Sr.  
905 Glendean Avenue, Suite 7  
Riverside OH 45431  
US

**Tel:** 937/256-7500  
**Ext:**  
**Fax:** 937/256-7500

**Email:** [blingo@dma.org](mailto:blingo@dma.org)  
**Web:**

**# Yrs in Business:** 20  
**# Employees:** 5

National Methane holds a patent for a system that can verify the basis for each of the "multiple" avenues of income streams their system develops. National Methane provides complete farm evaluations and recommendations for incorporating biogas technology into a farm plan. National Methane has provided evaluations for more than 100 chicken farms, more than 60 swine farms, more than 25 dairy farms, and one sheep farm. The company also provides grant writing and public relations services related to on-farm biogas recovery and fee-based speakers for Community Groups and Agricultural Seminars.

### Nelson and Associates

D.O. "Swede" Nelson  
76 Almendral Avenue  
Atherton CA 94027

**Tel:** 650/364-7273  
**Ext:**  
**Fax:** 650/367-0365

**Email:** [swedenelson@msn.com](mailto:swedenelson@msn.com)  
**Web:**

**# Yrs in Business:** 18  
**# Employees:** 12

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US

Nelson and Associates is a domestic and international consulting group specializing in the planning, technical study, implementation, and financing of petroleum and environmental projects. The company is affiliated with firms with extensive experience in biogas projects and is currently completing design, installation, and start-up of a bioremediation and thermal desorption project in the western United States.

### Omega-Alpha Recycling Systems

Robert Hamburg		<b>Tel:</b> 304/655-8662			
Route 1, Box 51		<b>Ext:</b>	<b>Email:</b> anomalous@citlink.net	<b># Yrs in Business:</b>	24
Orma	WV 25268	<b>Fax:</b> NA	<b>Web:</b>	<b># Employees:</b>	1
US					

Omega-Alpha Recycling Systems (OARS) works on projects related to organic recycling and biogas systems integrated with organic farming and permaculture facilities. OARS has designed four small-scale, ambient temperature digesters: 1) Arcadia Farm, a goat, chicken, and horse farm in Orma, West Virginia with a Chinese style extended batch digester; 2) Urbanic Farm, a horse, cow, and chicken farm in Chloe, West Virginia with a Chinese style extended batch digester; 3) Agriculture Research Farm, a swine farm in Bamaco, Mali, West Africa with a Chinese style extended batch digester; and 4) the Mandali School, a school with cattle, in Chhopark, Nepal, an Indian design Gobar Gas demonstration project. OARS was also instrumental in halting a project that was environmentally and economically unsound.

### R. K. Frobel & Associates

Ronald K. Frobel, P.E.		<b>Tel:</b> 303/679-0285			
1153 Bergen Parkway; Suite M-240		<b>Ext:</b>	<b>Email:</b> geosynthetics@msn.com	<b># Yrs in Business:</b>	15
Evergreen	CO 80439	<b>Fax:</b> 303/679-8955	<b>Web:</b>	<b># Employees:</b>	3
US					

Established in 1988, R.K. Frobel & Associates Consulting Engineers provides design and construction assistance in the growing field of geosynthetics, including design assistance in both animal waste lining systems and cover systems for waste/anaerobic digesters. Design assistance is provided to full-service engineering firms or facility/farm owners. As principal of R.K.Frobel & Associates, Mr. Frobel has over 25 years of experience in synthetic lining and cover systems, including agricultural applications.

### Richmond Energy Associates

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Jeff Forward		<b>Tel:</b> 802/434-3770			
P.O. Box 615		<b>Ext:</b>	<b>Email:</b> forward@sover.net	<b># Yrs in Business:</b>	3
Richmond	VA 05477	<b>Fax:</b> 802/434-2344	<b>Web:</b>	<b># Employees:</b>	1
US					

Richmond Energy Associates is a renewable energy company specializing in anaerobic digestion feasibility analysis.

### Robert A. Beckstrom, Electrical Consultant

Robert (Bob) Beckstrom		<b>Tel:</b> 209/576-1740			
1512 Gladwin Lane		<b>Ext:</b>	<b>Email:</b>	<b># Yrs in Business:</b>	NA
Modesto	CA 95355	<b>Fax:</b>	<b>Web:</b>	<b># Employees:</b>	1
US					

Mr. Beckstrom provides electrical design and consulting services and specializes in alternative power projects. He wrote the electrical specifications for the first 100 wind generators installed on the Altamont Pass. In addition, Mr. Beckstrom participated in the design of the first geothermal test well in Hawaii, as well as several hydro-electric plants.

### Selective Site Energy

Terry Super		<b>Tel:</b> 913/438-7700			
8500 West 110th Street, Suite 300		<b>Ext:</b>	<b>Email:</b> terry.super@selectivesite.com	<b># Yrs in Business:</b>	1
Overland Park	KS 66210	<b>Fax:</b> 913/438-7777	<b>Web:</b> <a href="http://www.selectivesite.com">www.selectivesite.com</a>	<b># Employees:</b>	4
US					

Selective Site Energy was formed as a division of Selective Site Consultants, a wireless telecommunications, cellular tower, and facility design-build consultancy. All the principles, partners, engineers, and related professional staff at SSC/SSE have extensive backgrounds in all forms of engineering and construction projects, including water and wastewater treatment, power, and cogeneration.



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### The Dubara Company

Stephen Hoyt

1177 Route 9

Castleton NY 12033

US

**Tel:** 518/732-7618

**Ext:**

**Fax:** 518/732-7618

**Email:** steveh@albany.net

**Web:**

**# Yrs in Business:** 2

**# Employees:** 1

The Dubara Company is currently operating three pilot reactors for the Vermont Department of Public Service and testing the rate of digestion of whole dairy manure. The company hopes to increase the rate of digestion and reduce the size of digesters, and to address ways to remove sediment and prevent its accumulation.

### Consultants

### Tim Goodman & Associates

Tim Goodman

2337 Texas Avenue South

St. Louis Park MN 55426

US

**Tel:** 952/544-6005

**Ext:**

**Fax:** 952/544-2307

**Email:** tgoodman1@mn.rr.com

**Web:**

**# Yrs in Business:** 1

**# Employees:** 1

Tim Goodman & Associates has experience in a variety of biomass projects, including green waste composting, food waste composting, and biomass-to-energy facilities. The company can provide feasibility studies for anaerobic digestion of animal waste at farms and feedlot operations, biogas system design, and vendor procurement assistance.

### Universal Entech, LLC

Daniel Musgrove

5501 N. 7th Avenue, PMB 233

Phoenix AZ 85013-1756

US

**Tel:** 602/268-8849

**Ext:**

**Fax:** 602/268-9742

**Email:** dmusgrove@earthlink.net

**Web:**

**# Yrs in Business:** 10

**# Employees:** 12

Universal Entech, LLC is an organic resource management company providing manure management and wastewater treatment services to the CAFO industry. The company focuses on developing turnkey solutions that comply with its clients' nutrient management plans and discharge

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requirements. Universal Entech's team has extensive experience in the development and operation of renewable energy systems utilizing biogas from municipal wastewater and landfill applications.

### Williams Creek Consulting, Inc.

Joel Johnston	<b>Tel:</b> 317/722-9567		
P.O. Box 20821	<b>Ext:</b>	<b>Email:</b> <a href="mailto:jjohnston@williams creek.net">jjohnston@williams creek.net</a>	<b># Yrs in Business:</b> 1
Indianapolis IN 46220	<b>Fax:</b> 317/726-0703	<b>Web:</b>	<b># Employees:</b> 4
US			

Williams Creek Consulting, Inc. specializes in designing and building natural wastewater treatment systems, including hybrid wetland systems. The company is currently working to incorporate biogas recovery into these systems to maximize potential energy usage.

### Developers

#### ADI Systems Inc.

Albert A. Cocci	<b>Tel:</b> 603/893-2134		
182 Main Street, Unit 6	<b>Ext:</b>	<b>Email:</b> <a href="mailto:acocci@adi.ca">acocci@adi.ca</a>	<b># Yrs in Business:</b> 13
Salem NH 03079	<b>Fax:</b> 603/898-3991	<b>Web:</b> <a href="http://www.adi.ca">www.adi.ca</a>	<b># Employees:</b> 15
US			<b>Farm Projects:</b> 0

ADI Systems has been involved in approximately 100 full-scale anaerobic system installations throughout the world. Approximately 50 of these systems treat agri-waste from food-related processing, while the remaining systems treat brewery, beverage, and chemical wastes. Each of these systems involves biogas collection and flaring or utilization (in most cases via burning in a boiler to produce hot water and steam). In several instances, utilization has involved cogeneration.

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### Ag Environmental Solutions

Carl Theunis  
2768 Poplar Street  
Kaukauna WI 54130  
US

**Tel:** 920/532-4804

**Ext:**

**Fax:** 920/532-5039

**Email:** aes@athenet.net

**Web:** ag-env-sol.com

**# Yrs in Business:** 3

**# Employees:** 6

**Farm Projects:** 1

Ag Environmental Solutions employs a process patented by and licensed to Iowa State Research. Ag Environmental Solutions' Tinedale Project is one of the largest dairy farm biogas systems in the United States with a 2,500-head capacity. The process is a complete mix using thermophilic and mesophilic temperatures enabling the system to produce a Class A bio-solid.

### Agri Bio Systems

Richard Vetter, PhD, PAS, ACAN  
2333 Tara Drive  
Elgin IL 60123  
US

**Tel:** 847/888-7854

**Ext:**

**Fax:** 847/888-1484

**Email:** rvagribio@aol.com

**Web:**

**# Yrs in Business:** 18

**# Employees:** NA

**Farm Projects:** 7

Agri Bio Systems performs feasibility assessments and designs and installs biogas systems in the United States and abroad. Examples of biogas systems include: 1) Lindstrom Farm: a 50-cow dairy farm in Welch, Minnesota; 2) Leefer Farm, a 1,000-cow beef confinement farm in Carbin Carlinville, Illinois; 3) Smith Farm, a 70,000-broiler poultry farm in Princeton, North Carolina; 4) Naser Farm, a 1,000-sow finishing swine farm in Sibley, Iowa; 5) Hamilton Farm, a 450-sow finishing farm and a 120,000-layer poultry farm in Iowa Falls, Iowa; 6) Huntington Dairy, a 300-cow dairy farm in Cooperstown, New York; 7) Cushman Farm, a 600-cow dairy in Franklin, Connecticut; and 8) International Project, Taiwan, Environmental Training Center for Waste Management.

### AnAerobics

Sarah Ploss  
P.O. Box 307, Aurora Place, Suite 202  
Aurora NY 13026  
US

**Tel:** 315/364-5062

**Ext:**

**Fax:** 315/364-7713

**Email:** info@anaerobics.com

**Web:** [www.anaerobics.com](http://www.anaerobics.com)

**# Yrs in Business:** 7

**# Employees:** 13

**Farm Projects:** 1

AnAerobics delivers treatment of organic waste streams using proprietary and patented technologies that create opportunities for renewable energy utilization. Methane gas produced by the company's patented process is used at its treatment sites to operate boilers that heat wastewater for

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treatment. The methane can also be cleaned and used as a natural gas alternative.

### Anergen Corporation

Esh Noojibail	<b>Tel:</b> 847/498-4545		
663 Academy Drive	<b>Ext:</b>	<b>Email:</b> enoojibail@anergen.com	<b># Yrs in Business:</b> 17
Northbrook IL 60062-2420	<b>Fax:</b> 847/498-4547	<b>Web:</b> <a href="http://www.anergen.com">www.anergen.com</a>	<b># Employees:</b> 25
US			<b>Farm Projects:</b> 0

Anergen specializes in designing and installing waste mitigation systems for agricultural and industrial organic wastes to recover biogas, reduce BOD, eliminate odor, separate nutrients, and generate electricity from biogas. Anergen has a fully instrumented, state-of-the-art pilot plant that can be used to test the material before installing the system. Anergen does not design and install any systems without performing a trial on the waste material at the pilot plant. Anergen uses the latest anaerobic technology, which generates 50 to 75 percent more biogas than conventional technologies. Average payback is three to six years with positive cash flow. The performance is guaranteed.

### Applied Technologies, Inc.

John F. Kouba	<b>Tel:</b> 262/784-7690		
16815 W. Wisconsin Avenue	<b>Ext:</b>	<b>Email:</b> jfkouba@ati-ae.com	<b># Yrs in Business:</b> 15
Brookfield WI 53005	<b>Fax:</b> 262/784-6847	<b>Web:</b>	<b># Employees:</b> 54
US			<b>Farm Projects:</b> 2

Applied Technologies, Inc. (ATI) is an engineering design and consulting firm that has designed its own anaerobic contact process. ATI has cosponsored seminars on anaerobic treatment of agricultural and high-strength wastes for the past 10 years. The company designed a complete mix anaerobic digester for poultry manure for Maple Leaf Farms in Wisconsin and a complete mix anaerobic digester for poultry manure and slaughter wastewater for Crescent Duck in New York.

### BioWaste Energy, Inc.

Zia Khan	<b>Tel:</b> 209/465-0296		
P.O. Box 8520	<b>Ext:</b>	<b>Email:</b> ziakhan@pacbell.net	<b># Yrs in Business:</b> 30
Stockton CA 95208	<b>Fax:</b> 209/465-1605	<b>Web:</b> <a href="http://home.pacbell.net/ziakhan">http://home.pacbell.net/ziakhan</a>	<b># Employees:</b> 20
US			<b>Farm Projects:</b> 0

BioWaste Energy, Inc. and its predecessors have provided quality services to industries and municipalities since 1972 and have completed more than 300 power generation projects in the United States and abroad. The company develops and finances zero discharge projects utilizing

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anaerobic technology. These projects treat solid and liquid waste and produce saleable products, including electricity generated from methane, liquid fertilizer, CO<sub>2</sub>, soil amendments, and recycled potable water. These facilities provide zero solid and liquid discharge. The company offers a full range of services covering all phases of project development from planning, feasibility studies, engineering design, equipment and systems supply, and construction and installation to start-up and operations.

### EA Engineering, Science, and Technology

Robert Newman		<b>Tel:</b> 410/592-7269			
15 Loveton Circle		<b>Ext:</b>	<b>Email:</b> rnewman@eaest.com	<b># Yrs in Business:</b>	28
Sparks	MD 21152	<b>Fax:</b> 410/771-4204	<b>Web:</b> <a href="http://www.eaest.com">www.eaest.com</a>	<b># Employees:</b>	400
US				<b>Farm Projects:</b>	0

EA Engineering, Science, and Technology focuses on biogas projects (i.e., conceptualization, design, building), primarily at meat-processing facilities. For example, the firm is currently constructing a lagoon enclosure in Texas with the capacity to collect 60,000 cubic feet of biogas, which will be ducted to boilers on-site. Virtually all methane will be oxidized.

### Environmental Energy Company

Dennis Burke		<b>Tel:</b> 360/923-2000			
6007 Hill Road NE		<b>Ext:</b>	<b>Email:</b> dab@cyclus.com	<b># Yrs in Business:</b>	12
Olympia	WA 98516	<b>Fax:</b> 360/923-1642	<b>Web:</b> <a href="http://www.makingenergy.com">www.makingenergy.com</a>	<b># Employees:</b>	12
US				<b>Farm Projects:</b>	0

Environmental Energy Company, formerly Cyclus Envirosystems (a division of Western Environmental Engineering), solves waste management problems through innovative process technologies. The company developed and patented new anaerobic and flotation processes that allow them to solve waste management problems at significantly less cost and with better capture of components.

### Environmental Products & Technology Company (EPTC)

Marvin Mears		<b>Tel:</b> 818/865-2205			
3380 N. Sterling Ctr. Drive		<b>Ext:</b>	<b>Email:</b> marvin@eptcorp.com	<b># Yrs in Business:</b>	7
Westlake Village	CA 91361-4612	<b>Fax:</b> 818/865-2205	<b>Web:</b> <a href="http://eptcorp.com">eptcorp.com</a>	<b># Employees:</b>	9
US				<b>Farm Projects:</b>	0

Environmental Products & Technology Company (EPTC) developed two anaerobic digester projects at Utah State University. Both systems are

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## Industry Directory for On-Farm Biogas Recovery Systems

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multi-tank systems with the objective of developing short HRT cycles. Short HRT can reduce both the size of the system and system-related costs. EPTC has developed a closed loop waste management system designed to treat and convert an organic waste product into a series of desirable and marketable reuse products.

### Environomics

Richard Mattocks  
5700 Arlington Avenue, Suite 17A  
Riverdale NY 10471  
US

**Tel:** 718/884-6740

**Ext:**

**Email:** [utter@compuserve.com](mailto:utter@compuserve.com)

**Fax:** 718/884-6726 **Web:** [www.waste2profits.com](http://www.waste2profits.com)

**# Yrs in Business:** 20

**# Employees:** 2

**Farm Projects:** 24

Environomics has worked on over 20 farm-scale biogas digester projects. These projects include plug-flow digesters for multiple dairy facilities throughout the United States, ranging in size from 30 to 1,000 cows. Depending on the farm, the biogas is used to generate electricity, fuel boiler systems, or both. The remaining farm-scale projects include mixed digesters for several swine farms throughout the United States for farrow-to-finish farms, ranging in size from 1,000 to 3,000 sows. The swine farms use the biogas to generate electricity. In addition, Environomics is experienced in permitting, utility negotiations, public relations, feasibility studies, and publications.

### Feldmann and Associates

Terry Feldman, P.E.  
410 Illinois Street, Suite C  
Spring Bay IL 61611  
US

**Tel:** 309/822-9828

**Ext:**

**Email:** [tlfeldmann@aol.com](mailto:tlfeldmann@aol.com)

**Fax:** 309/822-9829

**Web:**

**# Yrs in Business:** 10

**# Employees:** 5

**Farm Projects:** 2

Feldmann and Associates collaborated with AgSTAR to design a complete mix digester for Apex Pork in Rio, Illinois, an AgSTAR demonstration farm. The company has other biogas projects in the planning and construction phases, including Inwood Dairy in Elmwood, Illinois, a plug flow dairy project, and New Image, LLC, a complete mix swine digester. Feldmann is focused on advising farmers to increase production efficiency and improve manure-handling methods.

### Fox Engineering Associates, Inc.

Dale Watson  
1601 Golden Aspen Drive  
Ames IA 50010

**Tel:** 515/233-0000

**Ext:**

**Email:** [dwatson@foxeng.com](mailto:dwatson@foxeng.com)

**Fax:** 515/233-0103 **Web:** [www.foxeng.com](http://www.foxeng.com)

**# Yrs in Business:** 40

**# Employees:** 38

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US

**Farm Projects:**

2

Fox Engineering specializes in environmental and civil engineering services for industrial, municipal, and agricultural sectors. The company focuses on water, wastewater, soil, and air media issues and has designed a digester for Crawford Farm (demonstration project), a swine farm in Nevada, Iowa.

### GHD Inc.

Steve Dvorak

**Tel:** 920/849-9797

P.O. Box 69

**Ext:**

**Email:** ddghd@tds.net

**# Yrs in Business:**

13

Chilton

WI 53014

**Fax:** 920/849-9160

**Web:**

**# Employees:**

12

US

**Farm Projects:**

6

GHD provides engineering and system installation experience in the anaerobic digester industry. GHD has five operating anaerobic digesters utilizing its proprietary mixed plug flow digester design in the Midwest and one additional digester under construction.

### Hadley and Bennett, Inc.

Spencer Bennett

**Tel:** 603/428-3851

P.O. Box 517

**Ext:**

**Email:** bennettfarm@conknet.com

**# Yrs in Business:**

NA

Henniker

NH 03242

**Fax:** 603/428-3851

**Web:**

**# Employees:**

1

US

**Farm Projects:**

6

Hadley and Bennett, Inc. designs and builds anaerobic digesters. Examples of projects include: 1) Hadley Farm, a dairy in Henniker, New Hampshire; 2) Foster Brothers, a dairy in Middlebury, Vermont; 3) Tait Farm, a veal farm in North Whitefield, Maine; 4) Shugah Vale, a dairy in Claremont, New Hampshire; 5) Curtin Brothers, a dairy in Oneida, New York; and 6) Bruce Farm, a dairy in Oldenburg, New York.

### Orgo Systems, Inc.

Mayyar Irani

**Tel:** 570/374-4402

16 White Block

**Ext:**

**Email:** mayyar@orgosystems.com

**# Yrs in Business:**

4

Selingsgrove

PA 17870

**Fax:** 570/374-0487

**Web:** [orgosystems.com](http://orgosystems.com)

**# Employees:**

3

US

**Farm Projects:**

1

Orgo System's farm project is a 1,100 farrow-to-finish hog operation with a 4,000-hog capacity. The 24-kW engine currently supplies electricity

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to the barn, and the project will soon upgrade to a 100-kW engine. Orgo Systems designed an operational prototype that produces electricity, reduces odors, and separates solids for better handling of waste. Orgo Systems is working on plans for a second generation digester system at a 300-cow dairy that will digest, separate, compost, and aerate for total nutrient management.

### PRIME Technologies, LLC

Phillip D. Lusk		<b>Tel:</b> 605/945-1311		
108 E. Missouri Avenue		<b>Ext:</b>	<b>Email:</b> <a href="mailto:plusk@primecapture.com">plusk@primecapture.com</a>	<b># Yrs in Business:</b> 3
Pierre	SD	<b>Fax:</b> 605/945-0194	<b>Web:</b> <a href="http://www.primecapture.com">www.primecapture.com</a>	<b># Employees:</b> 16
US	57501			<b>Farm Projects:</b> 0

The proposed PRIME Technologies biorefinery includes a locally managed system comprised of a 20-million gallon/year ethanol plant that uses local crops and an adjoining 28,000-head confined cattle feedlot connected to an anaerobic digester. Independent contractors will run “backgrounding” operations with additional 13,000- to 15,000-head of cattle. The complex will produce fuel-grade ethanol, finished cattle, biogas, and biofertilizers. The biorefinery is economically attractive, with an estimated internal rate of return of approximately 30 percent, achievable through significant economies of scope. A commercial demonstration of this referenced biorefinery is undergoing final detailed engineering and project development at a site located outside of Pierre, South Dakota. Construction is scheduled to commence late spring of 2002 and start-up is scheduled for the summer of 2003.

### RCM Digesters, Inc.

Mark Moser		<b>Tel:</b> 510/658-4466		
P.O. Box 4716		<b>Ext:</b>	<b>Email:</b> <a href="mailto:rcmdigesters@att.net">rcmdigesters@att.net</a>	<b># Yrs in Business:</b> 18
Berkeley	CA	<b>Fax:</b> 510/658-2729	<b>Web:</b> <a href="http://www.rcmdigesters.com">www.rcmdigesters.com</a>	<b># Employees:</b> 2
US	94704			<b>Farm Projects:</b> 30

RCM Digesters, Inc. has designed 30 farm-scale biogas projects. Examples include: 1) Apex Pork (for AgSTAR), a swine farm in Rio, Illinois with a covered, heated, mixed lagoon; 2) Freund Dairy (for AgSTAR), a dairy farm in East Canaan, Connecticut with a plug flow digester; 3) AA Dairy (for AgSTAR), a dairy farm in Candor, New York; 4) Martin Hog Farm (for AgSTAR), a swine farm in South Boston, Virginia with a covered lagoon; 5) Barham Hog Farm (for AgSTAR), a swine farm in Zebulon, North Carolina with a covered lagoon; 6) Craven Dairy, a dairy farm in Cloverdale, Oregon with a plug flow digester; 7) Cal Poly Dairy (for AgSTAR), a dairy farm in San Luis Obispo, California with a covered lagoon; 8) Palmer Hog Farm, a swine farm in Yell County, Arkansas with a covered lagoon; 9) Tohoku Farm, a swine farm in Aamori Prefecture, Japan with a mixed digester; and 10) Langerwerf Dairy, a dairy farm in Durham, California with a plug flow digester.



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### Sharp Energy, Inc.

Roy Sharp		<b>Tel:</b> 559/688-2051		
24684 Road 148		<b>Ext:</b>	<b>Email:</b> rsharp6363@aol.com	<b># Yrs in Business:</b> 18
Tulare	CA 93274	<b>Fax:</b> 559/688-1111	<b>Web:</b>	<b># Employees:</b> 2
US				<b>Farm Projects:</b> 5

Sharp Energy, Inc. consults, designs, and sets up effective and efficient waste management and energy production systems. Sharp Energy developed systems for the following farms: 1) Royal Farms, a 16,000-head swine farm in Tulare, California; 2) Sharp Ranch, a 5,000-head swine farm in Tulare, California; 3) Sharp Enterprises, an 8,000-head swine farm in Caruthers, California; and 4) Petrorio Farm, a 3,000-head swine farm in Skopje, Macedonia. Sharp Energy designed covers for the following farms: Cal Poly San Luis Obispo (an AgSTAR Demonstration Farm), a 300-cow dairy in San Luis Obispo, California; and Laurenco Dairy, a 1,200-cow dairy in Tulare, California.

### Synagro

Paul Sellew		<b>Tel:</b> 978/371-0501		
1800 Bering Drive, Suite 1000		<b>Ext:</b>	<b>Email:</b> psellew@synagro.com	<b># Yrs in Business:</b> 16
Houston	TX 77057	<b>Fax:</b> 713/369-1750	<b>Web:</b> <a href="http://www.synagro.com">www.synagro.com</a>	<b># Employees:</b> 1,000
US				<b>Farm Projects:</b> 1

Synagro operates at over 1,000 wastewater treatment plants throughout the country, providing operations and residuals management services. Many of these wastewater treatment plants employ anaerobic digestion. The company is using this experience to expand into the agribusiness market with its first operational facility, which was designed and built in Chino, California. This digester is designed for 225 wet tons of fresh cow manure per day. It employs dewatering and onsite cogeneration using Capstone Microturbines.

### Williams Engineering Associates

Doug Williams, P.E.		<b>Tel:</b> 805/528-0131		
2073 Buckskin Drive		<b>Ext:</b>	<b>Email:</b> wmsengre@thegrid.com	<b># Yrs in Business:</b> 17
Los Osos	CA 93402	<b>Fax:</b>	<b>Web:</b>	<b># Employees:</b> 1
US				<b>Farm Projects:</b> 1

Williams Engineering Associates specializes in anaerobic digestion, biogas energy utilization, energy conservation, and farm machinery systems. The company has designed and developed many methane digester systems for dairy and swine facilities.

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## Equipment Suppliers/Distributors: Covers

### **Dennis Gerber, Consultant**

Dennis Gerber		<b>Tel:</b> 408/395-9020		
15870 Rose Avenue		<b>Ext:</b>	<b>Email:</b> dhgerber@attbi.com	<b># Yrs in Business:</b> NA
Los Gatos	CA	<b>Fax:</b> 408/395-9020	<b>Web:</b>	<b># Employees:</b> NA
95030				
US				

Mr. Gerber designs and installs anaerobic digester covers. His Gas Collecting Floating Cover design, which holds a U.S. Patent, is the de-facto standard for flexible membrane anaerobic digesters.

### **Engineered Textile Products**

Carter Damp		<b>Tel:</b> 800/222-8001		
P.O. Box 7474		<b>Ext:</b>	<b>Email:</b> cdamp2@aol.com	<b># Yrs in Business:</b> 20
Mobile	AL	<b>Fax:</b> 888/222-8277	<b>Web:</b> <a href="http://www.etpinfo.com">www.etpinfo.com</a>	<b># Employees:</b> 36
36670				
US				

Engineered Textile Products, Inc. manufactures and distributes lagoon covers. The company manufactured the covers for Martin's Farm, a swine farm with a covered lagoon in South Boston, Virginia, and Palmers Farm, a swine farm with a covered lagoon in Petite Jean Mt., Arkansas.

### **Environmental Fabrics, Inc.**

Ray E. Pickel		<b>Tel:</b> 803/551-5700		
85 Pascon Court		<b>Ext:</b>	<b>Email:</b>	<b># Yrs in Business:</b> 6
Gaston	SC	<b>Fax:</b> 803/551-5701	<b>Web:</b>	<b># Employees:</b> 30
29053				
US				

Environmental Fabrics Inc. has manufactured covers for five farms, including: 1) Dowell Ramsey Farm, a swine farm in Nash County, North Carolina; 2) Gold 'N Plump Poultry, a poultry farm in Cold Springs, Minnesota; 3) Pelican Rapids, a farm in Pelican Rapids, Minnesota; 4) Apex Pork, a swine farm in Rio, Illinois; and 5) Barham Farms, a swine farm in Zebulon, North Carolina.

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### Firestone Building Products Company

William Johnson      **Tel:** 800/428-4442  
575 Congressional Blvd.      **Ext:**      **Email:** johnsonwilliam@firestonebp.com      **# Yrs in Business:** 18  
Carmel      IN      46032      **Fax:** 317/575-7002      **Web:** [www.firestonebpco.com](http://www.firestonebpco.com)      **# Employees:** 1300  
US

Firestone Building Products Company manufactures a variety of EPDM rubber geosynthetic products for agricultural use. Firestone can recommend a network of independent installers familiar with agricultural installations and Firestone's products. Firestone Building Products Company can advise customers in the selection of a cost-effective selection of EPDM rubber geosynthetic products for a number of agricultural uses, including biogas recovery.

### GSE Lining Technology, Inc.

Don Diguilio      **Tel:** 800/446-8216  
167 Anderson Road      **Ext:** 608      **Email:** ddiguilio@gseworld.com      **# Yrs in Business:** 20  
Cranberry Township      PA      16066      **Fax:** 724/452-3195      **Web:** [www.gseworld.com](http://www.gseworld.com)      **# Employees:** 1,200  
US

GSE Lining Technology, Inc. provides geosynthetic products and installation services to the agriculture industry. GSE's experienced staff assists customers in selecting the right materials to line livestock ponds to prevent contamination.

### Industrial & Environmental Concepts, Inc.

Mike Morgan      **Tel:** 952/829-0731  
6009 Chapel Drive      **Ext:**      **Email:** mmorgan@ieccovers.com      **# Yrs in Business:** 10  
Minneapolis      MN      55439      **Fax:** 952/829-9770      **Web:** [www.ieccovers.com](http://www.ieccovers.com)      **# Employees:** 5 to 25  
US

Industrial & Environmental Concepts, Inc. (IEC) produces and installs five types of floating modular covers for ponds and tanks. IEC's patented systems utilize a variety of geomembranes to provide cost-effective solutions to control problems with heat loss, odor, algae growth, and gas production in basins, ponds, lagoons, or tanks.

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### MPC Containment

Edward Reicin		<b>Tel:</b> 773/927-4120		
4834 South Oakley		<b>Ext:</b>	<b>Email:</b> ereic@aol.com	<b># Yrs in Business:</b> 80
Chicago	IL	<b>Fax:</b> 773/650-6028	<b>Web:</b> <a href="http://www.mpccontainment.com">www.mpccontainment.com</a>	<b># Employees:</b> 50
US	60609			

MPC Containment designs, fabricates, and installs floating-membrane liner systems, as well as other primary and secondary containment systems. The company also manufactures collapsible storage/pillow tanks for fuel, water, and waste.

### Equipment Suppliers/Distributors: Engines

#### California Power Partners, Inc.

Tom Moore		<b>Tel:</b> 858/277-8585		
3944 Murphy Canyon Road; Suite		<b>Ext:</b>	<b>Email:</b> tomm@calpwr.com	<b># Yrs in Business:</b> 3
San Diego	CA	<b>Fax:</b> 858/277-8514	<b>Web:</b> <a href="http://www.calpwr.com">www.calpwr.com</a>	<b># Employees:</b> 18
US	92123			

California Power Partners, Inc. is a turn-key provider of services to the distributed generation and cogeneration industry. Its services include financial and technical analysis, engineering, equipment supply, project management, construction, financing, O&M, and other related activities.

#### Capstone Turbine Corporation

George Wiltsee		<b>Tel:</b> 818/734-5300		
21211 Nordhoff Street		<b>Ext:</b>	<b>Email:</b> gwiltsee@capstoneturbine.com	<b># Yrs in Business:</b> 14
Chatsworth	CA	<b>Fax:</b> 818/734-5320	<b>Web:</b> <a href="http://www.microturbine.com">www.microturbine.com</a>	<b># Employees:</b> 275
US	91311			

Capstone manufactures microturbines that can burn biogas with as little as 35 percent methane content. The currently available biogas model is a 30-kW microturbine that was initially offered for natural gas, propane, oil field waste gas, and diesel. During early 2000, a demonstration test program was conducted with Los Angeles County Sanitation Districts at Puente Hills landfill and at Palmdale wastewater treatment plant. Successful testing during 2000 led to commercial operations at 20 biogas facilities, as of March, 2002, using a total of 117 Capstone microturbines. The Capstone microturbine achieves a combustion efficiency of 99.999 percent. The patented premix combustion system is uniquely designed to reduce emissions of NO<sub>x</sub>, CO, and hydrocarbons to extremely low levels.

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### Caterpillar, Inc.

Rob Schueffner	<b>Tel:</b> 309/578-6376		
PO Box 610; AC6109	<b>Ext:</b>	<b>Email:</b> <a href="mailto:schuerd@Cat.com">schuerd@Cat.com</a>	<b># Yrs in Business:</b> 75
Mossville IL 61525	<b>Fax:</b> 309/578-7302	<b>Web:</b> <a href="http://www.cat.com">www.cat.com</a>	<b># Employees:</b> 80
US			

For more than 75 years, Caterpillar, Inc. has been building the world's infrastructure. In partnership with Caterpillar dealers, it is driving sustainable change in every continent. A Fortune 100 company, Caterpillar is the world's leading manufacturer of construction and mining equipment, diesel and natural gas engines, and industrial gas turbines. The company is a technological leader in construction, transportation, mining, forestry, energy, logistics, electronics, financing, and electric power generation.

### Charles Equipment Company

	<b>Tel:</b> 800/842-4279		
PO Box 388	<b>Ext:</b>	<b>Email:</b> <a href="mailto:cec@charlesequipment.com">cec@charlesequipment.com</a>	<b># Yrs in Business:</b> 40
Addison IL 60101	<b>Fax:</b> 630/543-4174	<b>Web:</b> <a href="http://www.charlesequipment.com">www.charlesequipment.com</a>	<b># Employees:</b> 35
US			

Charles Equipment Company has specialized in reciprocating engine power systems for businesses, homes, and municipalities for more than 43 years. Charles Equipment Company has three offices located across the Midwest, providing full service in Illinois, Indiana, Michigan, Wisconsin, and Northwest Ohio.

### Coffman Electrical Equipment

Greg Mulder	<b>Tel:</b> 616/452-8708		
3300 Jefferson SE	<b>Ext:</b>	<b>Email:</b> <a href="mailto:gmulder@steadypower.com">gmulder@steadypower.com</a>	<b># Yrs in Business:</b> 54
Grand Rapids MI 49548	<b>Fax:</b> 616/452-1337	<b>Web:</b> <a href="http://www.steadypower.com">www.steadypower.com</a>	<b># Employees:</b> 16
US			

As distributors of Hess Microgen and Bowman Power Microturbine cogeneration systems, Coffman Electrical Equipment offer digester consultation, proven electrical production, and hot water absorption chilling. The company works with both single and multiple stage digesters.

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### DTE Energy Technologies, Inc. (Power Partner of Waukesha Engines)

John Macgowan		<b>Tel:</b> 800/472-3585			
1715 Lake Drive West		<b>Ext:</b>	<b>Email:</b> <a href="mailto:macgowanj@dteenergy.com">macgowanj@dteenergy.com</a>	<b># Yrs in Business:</b>	90
Chanhassen	MN	<b>Fax:</b> 952/448-9302	<b>Web:</b> <a href="http://www.dtech.com">www.dtech.com</a>	<b># Employees:</b>	1000+
US	55317				

Waukesha Engine is a leading manufacturer of stationary natural gas, methane, and biogas powered engines. DTE Energy provides comprehensive application engineering services to help ensure systems are configured to each customer's specific requirements and energy objectives.

### FlexEnergy, Inc.

Edan Prabhu		<b>Tel:</b> 949/380-4899			
22922 Tiagua		<b>Ext:</b>	<b>Email:</b> <a href="mailto:edanprabhu@cox.net">edanprabhu@cox.net</a>	<b># Yrs in Business:</b>	6
Mission Viejo	CA	<b>Fax:</b> 949/380-8407	<b>Web:</b>	<b># Employees:</b>	2
US	92692				

FlexEnergy is developing the Flex-Microturbine® to expand the range of biomass-derived gases that can be converted to electricity. Proof-of-concept testing was successful, and several prototype units are currently being built for testing on dairy digester gas, landfill gas, and producer gas from wood and nutshell gasification. Flex-Microturbine accepts gases at atmospheric pressure. This technology will be commercially available in two years.

### Ingersoll-Rand

Holly Emerson		<b>Tel:</b> 704/896-4051			
800A Beaty Street		<b>Ext:</b>	<b>Email:</b> <a href="mailto:holly_emerson@irco.com">holly_emerson@irco.com</a>	<b># Yrs in Business:</b>	130
Davidson	NC	<b>Fax:</b> 704/896-4327	<b>Web:</b> <a href="http://www.irenergysystems.com">www.irenergysystems.com</a>	<b># Employees:</b>	NA
US	28036				

Ingersoll-Rand (IR)'s EcoWorks microturbine systems turn digester gas into electricity and hot water. IR offers compact, integrated cogeneration packages that reduce NOx emissions and odors associated with flaring. IR's solution includes a fuel conditioner to compress and clean the biogas for reliable long-term operation at low O&M costs.

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### Martin Machinery LLC

Harlan Martin		<b>Tel:</b> 660/458-7000		
39425 Excelsior Drive		<b>Ext:</b>	<b>Email:</b> sales@martinmachinery.com	<b># Yrs in Business:</b> 26
Latham	MO	65050	<b>Fax:</b> 660/458-7100	<b>Web:</b>
US				<b># Employees:</b> 20

Martin Machinery first entered the biogas industry in 1982 with the design and construction of 850-kW switch gear to parallel an induction generator to the utility. Additionally, the company supplied one 50-kW, one 100-kW, and four 350-kW electric biogas generator systems. Since the 1980s, the company has continued work on its Custom Designed Paralleling Switch Gear, making several updates as new technology became available. The company currently custom designs new and rebuilt electric generator systems to operate using biogas. It also services biogas units powered by engines with 460-cubic-inch to 7,040-cubic-inch engine blocks.

### MCX Environmental Energy Corp.

Rasheed Mustakeem		<b>Tel:</b> 404/816-2892		
110 East Andrews Drive - Suite 309		<b>Ext:</b>	<b>Email:</b> rasheed@mcxeec.com	<b># Yrs in Business:</b> 10
Atlanta	GA	30305	<b>Fax:</b> 404/237-7160	<b>Web:</b> <a href="http://www.mcxeec.com">www.mcxeec.com</a>
US				<b># Employees:</b> 7

Global distributor of the Capstone microturbine.

### Stewart & Stevenson, Distributed Energy Solutions

Jim Jodice		<b>Tel:</b> 253/931-0138		
10750 Telge Road		<b>Ext:</b>	<b>Email:</b> j.jodice@ssss.com	<b># Yrs in Business:</b> 100
Houston	TX	77095	<b>Fax:</b> 253/931-1175	<b>Web:</b> <a href="http://www.ssss.com">www.ssss.com</a>
US				<b># Employees:</b> 3000+

Stewart & Stevenson, Distributed Energy Solutions packages engine/generator sets for prime power and biogas applications. Stewart & Stevenson provides engineering, equipment, and construction services as well as operation and maintenance of power generation equipment.

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### STM Power

Randy Thomas  
275 Metty Drive  
Ann Arbor MI 48103  
US

**Tel:** 610/323-4519  
**Ext:**  
**Fax:** 610/323-4870

**Email:** [thomas.randy@stmpower.com](mailto:thomas.randy@stmpower.com)  
**Web:** [www.stmpower.com](http://www.stmpower.com)

**# Yrs in Business:** 13  
**# Employees:** 65

STM Power is a designer and developer of commercial-scale external combustion (Stirling cycle) engines.

### Canada Composting Inc.

Kevin Matthews  
390 Davis Drive, Suite 301  
Newmarket Ontario L3Y 7T8  
Canada

**Tel:** 905/830-1160  
**Ext:**  
**Fax:** 905-830-0416

**Email:** [ccikevin@attglobal.net](mailto:ccikevin@attglobal.net)  
**Web:** [www.canadacomposting.com](http://www.canadacomposting.com)

**# Yrs in Business:** 8  
**# Employees:** 8

Canada Composting Inc. is a private company that holds the exclusive rights to the BTA-Process throughout Canada and the United States. The BTA-Process technology employs anaerobic digestion for the production of biogas and compost from organic waste.

### Dresser ROOTS

John Parrish  
2135 Hwy 6 South  
Houston TX 77077  
US

**Tel:** 281/966-4700  
**Ext:**  
**Fax:** 281/966-4309

**Email:** [roots@dresser.com](mailto:roots@dresser.com)  
**Web:** [www.rootsblower.com](http://www.rootsblower.com)

**# Yrs in Business:** 148  
**# Employees:**

Dresser ROOTS Blowers and Compressors manufactures and sells positive displacement rotary lobe blowers and vacuum pumps, as well as a complete line of centrifugal compressors. The company's product line covers from 5 to 300,000 cfm with differential pressures of up to 30 PSI and vacuum levels of up to 28" Hg.



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### Kompogas AG

W. Schmid  
Rohrstrasse 36  
Glattbrugg CH-8152 Switzerland

**Tel:** 41 1 809 71 00  
**Ext:**  
**Fax:** 41 1 809 71 10

**Email:** [info@kompogas.ch](mailto:info@kompogas.ch)  
**Web:** [www.kompogas.ch](http://www.kompogas.ch)

**# Yrs in Business:** 12  
**# Employees:** 50

Kompogas AG has developed an anaerobic process for the fermentation of biogenous yard and kitchen waste combined with energy production. Waste recycling using the Kompogas process offers numerous advantages. The end products obtained from the process include CO<sub>2</sub>-neutral renewable energy (biogas), as well as high-quality compost and liquid fertilizer. The biogas recovered provides energy in the form of heat, electric power, and vehicle fuel.

### MWH Energy Solutions

Stephen Chippas  
27755 Diehl Road  
Warrenville IL 60555 US

**Tel:** 630/836-8977  
**Ext:**  
**Fax:** 630/836-8959

**Email:** [EnergySolutions@mwhglobal.com](mailto:EnergySolutions@mwhglobal.com)  
**Web:** [www.mwhglobal.com](http://www.mwhglobal.com)

**# Yrs in Business:** 2  
**# Employees:** 6

MWH Energy Solutions has extensive experience in the recovery, cleaning, and combustion of biogas. This expertise includes wastewater treatment plants, landfills, and agricultural applications. MWH can provide complete turnkey services including planning, design, procurement, construction, financing, and O&M services.

### Norton Environmental Equipment, Ltd.

Steven Viny  
6200 Rockside Woods Blvd.  
Independence OH 44131 US

**Tel:** 216/447-0070  
**Ext:** 148  
**Fax:** NA

**Email:** [sviny@daladgroup.com](mailto:sviny@daladgroup.com)  
**Web:**

**# Yrs in Business:** 3  
**# Employees:** 6

Norton Environmental Equipment Company, Ltd. is the exclusive distributor for Komptech composting equipment in North America. Komptech's BFSC system is for digesting on-farm waste, including compost production and gas recovery. Several such systems have been installed and are operating successfully in Europe.

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## Industry Directory for On-Farm Biogas Recovery Systems

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### Vaughan Company, Inc.

Mike Panther  
364 Monte-Elma Road  
Montesano WA 98563  
US

**Tel:** 360/249-4042

**Ext:**

**Email:** [mpanther@chopperpumps.com](mailto:mpanther@chopperpumps.com) **# Yrs in Business:** 42

**Fax:** 360/249-6155 **Web:** [www.chopperpumps.com](http://www.chopperpumps.com) **# Employees:** 57

Vaughan Company, Inc. designs and builds complete hydraulic mixing systems for methane digesters and sludge-storage tanks. Each digester mixing system is supplied with a mixing guarantee. Vaughan Company, Inc. also manufactures a complete line of heavy-duty chopper pumps for sludge and manure with high concentrations of solids. The company has been a leader in solids-handling technology for over 40 years. Each pump is backed with a non-clog performance guarantee.

### Equipment Suppliers/Distributors: Tanks

### Engineered Storage Products Company

Dave Friederick  
345 Harvestore Drive  
Dekalb IL 60115  
US

**Tel:** 815/756-1551

**Ext:**

**Email:** [dfriederick@engstorage.com](mailto:dfriederick@engstorage.com) **# Yrs in Business:** 52

**Fax:** 815/756-1659 **Web:** [www.slurrystore.com](http://www.slurrystore.com) **# Employees:** 143

Engineered Storage Products Company (E.S.P.C.) performs feasibility assessments and designs and installs biogas systems. E.S.P.C. has designed biogas systems for seven farms in the United States and 10 farms in Europe. Representative projects include: 1) Huntington Dairy, a 600-cow dairy in Cooperstown, New York; and 2) University of Florida, a 500-cow dairy in Gainesville, Florida.

### Alliant Energy

Duane Hanusa  
2777 Columbia Drive  
Portage WI 53901-9483  
US

**Tel:** 608/742-0888

**Ext:**

**Email:** [duanehanusa@alliantenergy.com](mailto:duanehanusa@alliantenergy.com) **# Yrs in Business:** 5

**Fax:** 608/742-0890 **Web:** [www.alliantenergy.com](http://www.alliantenergy.com) **# Employees:** 7,200

Headquartered in Madison, Wisconsin, Alliant Energy Corporation is a growing energy-service provider with operations in the United States and abroad. The company provides electric, natural gas, water, and steam services to nearly three million customers worldwide.

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## Industry Directory for On-Farm Biogas Recovery Systems

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### Chevron Energy Solutions

Felix Lopez; Dennis Potter  
345 California Street  
San Francisco CA 94104  
US

**Tel:** 415/733-4531

**Ext:**

**Email:** lofe@chevrontexaco.com

**Fax:** 415-733-4954 **Web:** [www.chevronenergy.com](http://www.chevronenergy.com)

**# Yrs in Business:** 3

**# Employees:** 150

Chevron Energy Solutions' initial focus is on large dairies and waste treatment plants in California's Central Valley. Chevron Energy Solutions also supplies fuel cells, cogeneration, and microturbines, combined with other energy services.

### Prime Power, Inc.

Guy Hallgren; Joel Moore  
535 South Madison Avenue  
Watkins Glen NY 14891  
US

**Tel:** 607/535-5407

**Ext:**

**Email:** GQHallgren@Primepwr.com

**Fax:** 607/535-8048 **Web:** [primepwr.com](http://primepwr.com)

**# Yrs in Business:** 4

**# Employees:** 3

Prime Power, Inc. provides complete service in the design, development, and construction of anaerobic digester systems and other alternative energy solutions. Prime Power is headquartered in Watkins Glen, New York, and is owned and operated by Joel Moore and Guy Hallgren. They have over 35 years combined experience in electric and gas engineering and construction.

### Publishers

#### BioCycle Magazine

Jerry Goldstein  
419 State Avenue  
Emmaus PA 18049  
US

**Tel:** 610/967-4135

**Ext:** 25

**Email:** biocycle@jgpress.com

**Fax:** 610/967-1345 **Web:** [www.biocycle.net](http://www.biocycle.net)

**# Yrs in Business:** 25

**# Employees:** 10

Published since 1960, BioCycle, Journal of Composting & Organics Recycling is recognized as the foremost magazine on using organic residuals to maximum advantage. The journal explores topics ranging from improving the health of soils and crops to producing renewable energy in the form of methane and alcohol fuels. In addition, the editors of BioCycle have published two special reports on renewable energy: "The BioCycle Guide to Anaerobic Digestion" and "Renewable Energy from Organics Recycling." Both reports are available from The JG Press, Inc., publisher of BioCycle. Publications can be ordered online at [www.biocycle.net](http://www.biocycle.net).

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### Universities

#### University of Florida, Soil and Water Science Department

Dr. Ann C. Wilkie	<b>Tel:</b> 352/392-8699			
P.O. Box 110960 University of Florida	<b>Ext:</b>	<b>Email:</b> <a href="mailto:acwilkie@mail.ifas.ufl.edu">acwilkie@mail.ifas.ufl.edu</a>	<b># Yrs in Business:</b>	NA
Gainesville FL 32611-0960	<b>Fax:</b> 352/392-8699	<b>Web:</b> <a href="http://soils.ifas.ufl.edu/">http://soils.ifas.ufl.edu/</a>	<b># Employees:</b>	NA
US				

Dr. Wilkie is an associate professor with the Soil and Water Science Department at the University of Florida and an environmental microbiologist. She investigates and develops bioremediation techniques for agricultural and industrial wastes, with emphasis on the microbial and environmental factors influencing biodegradation. Dr. Wilkie specializes in anaerobic microbiology and in the practical application of anaerobic digestion technologies for waste treatment, odor control, and biogas production.